

Module 11 - Probabilities and Statistics

ME3023 - Measurements in Mechanical Systems

Mechanical Engineering
Tennessee Technological University

Topic 2 - Characterizing a Population of Data

Topic 2 - Characterizing a Population of Data

- A Population of Data
- Variance and Standard Deviation
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- Using the Z Table

A Population of Data

Consider a manufacturing facility that makes ball bearings.

- How does the manufacturer ensure the quality of the product?
- How the does the seller communicate this to the buyer?
- How does the Engineer use this information?

Variance and Standard Deviation

For a given set of measurements we want to quantify:

- a representative value that characterizes the average of the measured data set
- a representative value that provides a measure of the variation in the data set
- how well the average of the measured data set represents the average of the entire population

Variance and Standard Deviation

A Population of Data

Variance and Standard Deviation

Using the Z Table

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